29323
S/109/61/006/010/021/027
D222/D302

Precision transistor amplifiers ...

bility of the circuit parameters and reduces their sensitivity to changes in the properties of the active elements. The output impedance is between 50 and 300 megaohms. Analytical expressions for the amplification, input and output impedances are given in the paper, and it is shown that there is an optimal value for the degree of local positive feedback. The same principles are used in the voltage-current converter also shown in a figure. Analytical expressions for the slope, input and output impedances are given. High input impedance in voltage amplifiers can be obtained with parallel-series negative feedback. The circuit shown in Fig. 4 has an input impedance between 500 and 2000 megohms. Stability of the voltage amplification against changes in the operating conditions, temperature or transistor replacement are ensured by the series-parallel negative feedback which increases the input and reduces the output impedance. The limited power amplification of the transistor, however, makes it possible only at the cost of reducing the voltage amplification. Experimentally obtained characteristics were in good agreement with the analytical expressions. There are

Card 2/

Precision transistor amplifiers . .   29323
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D222/D302

6 figures, 2 tables and 4 references: 2 Soviet-bloc and 2 non-Soviet-bloc. The references to the English-language publications read as follows: E.M. Davis, IRE Wescon Convention Record, 78-86, 1959; M. Kawakami, IRE Transactions, CT-5, 115, 1958.

SUBMITTED: November 3, 1960 (initially)
              July 23, 1961 (after revision)

Card 3/3

9, 2560

23961
S/103/61/022/007/007/008
D252/D302

AUTHORS: Kurkin, Yu. L. and Kurkina, N.S.

TITLE: Precision transistor integrator

PERIODICAL: Avtomatika i telemekhanika, v. 22, no. 7, 1961,
                907-913

TEXT: The Miller integrator using tubes is inconvenient if trans-
istors are used, since it requires a very high amplification factor
(of the order of 10^5 to 10^6). More convenient is the integrator
whose block-diagram is given in Fig. 1c, with amplification factor
$K_u = 1$, with which a high input-resistance ($r_i \gg r_c$) can be easily
obtained. It is essential that the high input-resistance is obtain-
ed from the feedback resistance R_c and the current amplification of
the circuit only, and does not depend on the small input resistances
of the transistors which change with temperature and operating con-
ditions. Fig. 2a represents an amplifier with $K_u = 1$ and with high
$r_i = 100$ megohm. An advantage of the proposed integrator over the
Miller integrator consists in the compensation of an error due to

Card 1/6

Precision transistor integrator...

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D252/D302

leakage through r_1 (Fig. 1c) by a slight increase in K_u. Fig. 2b represents an amplifier by means of which any stable and pre-set value of K_u can be obtained; such a value of K_u, slightly more than unity, is needed for compensating the capacitor discharge

$$K_u = \frac{1 + \frac{\alpha_4 R_f}{R_e} + \frac{\alpha_4 R_f}{r_{c3}(1 - 3)}}{1 + \frac{(1 - \alpha_4)R_f}{Z_H} + \frac{R_f}{r_{c4}}} \quad 1 + \frac{\alpha_4 R_f}{R_e}$$

The circuit remains stable also with small overcompensation. The amplitude characteristic of the amplifier of Fig. 2a is also given. The integrator works with a positive feed-back and is distinguished from the usual integrators of such type by incorporating as an amplifier a three-transistor amplifier with $K_u = 1$. The actually obtained characteristics of the integrator are given in the Table. The linearity of the amplifier is upset at output voltages above + 4.5 V. Much better results could be obtained by using a 4-tran-

Card 2/6

Precision transistor integrator

23961
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D252/D302

sistor amplifier with high r_i (of the order of 1000 Mohm), and $K_u = 1$. As high precision of integration is required, a simplified problem is considered, with $H(t)$:

$$H(t) = \frac{KR_e}{R} \left\{ \left[1 - e^{-\frac{t}{(K+1)CR_e}} \right] - \frac{e^{-\omega_1 t}}{\omega_1 CR_e(K+1)} \left[\frac{2\cos(\omega_1\sqrt{K}t)}{(K+1)} + \frac{\sin(\omega_1\sqrt{K}t)}{\sqrt{K}} \right] \right\}.$$

Silicon diodes are used against overloading; the errors due to these can be limited by suitable choice of C. The above amplifier-circuit can be also used for other linear operations with the given transient functions. There are 6 figures, 1 table and 5 references: 3 Soviet-bloc and 2 non-Soviet-bloc. The reference to the English-language publication reads as follows: J.B. Chatterton, D.C. Hollis-ter: Isolation of Power Transformers and Power Supplies, Military Sus. Design, vol. 3, 1959.

SUBMITTED: January 5, 1961

Card 3/6

BOGOLYUBOV, B. P., prof.; YUMATOV, B. P., dotsent; KHODINOV, A. S., gornyy inzhener; GRIGORYANTS, E. A., inzh.; KORGUN, I. K., inzh.; KURKOV, P. A., inzh.; YAKIMENKO, N. D.

Determination of the thickness of roofs in open-cut mining of areas where there are old underground workings. Gor. zhur. no.11:21-23 N '62.   (MIRA 15:10)

1. Moskovskiy institut stali i splavov (for Bogolyubov, Yumatov, Khodinov). 2. Noril'skiy gorno-metallurgicheskiy kombinat (for Grigoryants, Korgun, Kurkov, Yakimenko).

(Nikopol' region—Mining engineering)

PONOMAREV, I.V., inzh.; SAVRAN, V.Ya., inzh.; ROZHKOV, V.A., inzh.; KURKIN, Yu.P., inzh.

New machine for the preparation and crushing of coal samples. Sbor. inform. po obog. i brik. ugl. no.1:53-58 '57.   (MIRA 11:4)
(Sampling)   (Coal)

PONOMAREV, I.V. , inzh.; KURKIN, Yu.P., inzh.

Increasing the cruising efficiency and the productivity of
hammer crushers. Nauch.trudy po obog.i brik.ugl.   no.1:222-231
'58.   (MIRA 12:10)
          (Briquets(Fuel))   (Crushing machinery)

PONOMAREV, I.V., inzh.; KURKIN, Yu.P., inzh.; ROZHKOV, V.A., inzh.

Testing hammer crushers at the "Semenovska" Briquetting Plant.
Obog. i brik. ugl. no.5:31-33 '58. (MIRA 12:9)
(Ukraine--Coal preparation)
(Ukraine--Briquets (Fuel))

PONOMAREV, I.V., inzh.; KURKIN, Yu.P., inzh.; ROZHKOV, V.A., inzh.

Performance characteristics of MD-70 hammer crushers revolving at a highspeed. Obog. i brik. ugl. no.5:49-50 '58.

(MIRA 12:9)

(Coal preparation--Equipment and supplies)

SAVRAN, V.Ya., inzh.; KURKIN, Yu.P., inzh.

Determining the efficiency of a double-deck screen. Obog. i brik. ugl. no.9:29-37 '59.   (MIRA 12:9)

(Screens (Mining))

KURKIN, Yu.P., inzh.; KUNIK, V.P., inzh.

Graphic method of determining the results of coal crushing.
Obog.i brik.ugl. no.12:48-50 '59.   (MIRA 13:6)
(Coal preparation)

KURKINA, A.I., otv. za vypusk; POKHLEBKINA, M.I., tekhn. red.

[Soviet books on river transportation to be published in 1961]
Sovetskie knigi po rechnomu transportu na 1961. Moskva, 1960.
71 p. (Katalog dlia zaiavok, no.14)   (MIRA 14:8)

1. Mezhdunarodnaya kniga.
        (Bibliography—Inland water transportation)

ACC NR: AP6033515   SOURCE CODE: UR/0413/66/000/018/0148/0148

INVENTOR: Molchanov, A. I.; Kurkina, M. L.

ORG: none

TITLE: A solder for soldering niobium and molybdenum to various materials. Class 49,
No. 186263

SOURCE: Izobret prom obraz tov zn, no. 18, 1966, 148

TOPIC TAGS: niobium, molybdenum, niobium soldering, molybdenum soldering, solder,
nickel containing solder

ABSTRACT: This Author Certificate introduces a solder for soldering niobium and
molybdenum to various materials. To obtain a strong vacuum-tight joint, 17—41%
nickel is added to the solder composition. The remainder is 35—50% vanadium
and 24—33% niobium.

SUB CODE: 13/ , SUBM DATE: 19Jun65/ ATD PRESS: 5101

Joining of dissimilar metals

Card 1/1 bc   UDC: 621.791.36

KURKINA, N.I.   1

18.1130

S/135/62/000/004/006/016/
A006/A101

AUTHORS: Shorshorov, M. Kh., Candidate of Technical Sciences, Sokolov, Yu. V.,
Engineer, Russiyan, A. V., Candidate of Technical Sciences, Matsnev,
E. P., Engineer, Kurkina, N. I., Candidate of Technical Sciences

TITLE: The effect of the composition and structure of chrome-nickel steels
and alloys on hot crack formation in the weld-adjacent zone

PERIODICAL: Svarochnoye proizvodstvo, no. 4, 1962, 12-17

TEXT: The authors studied the effect of some alloying elements, such as
boron, aluminum, titanium, carbon and others, and also of the initial state of
various steels and alloys on changes in their ductility and strength under
thermal cycle conditions of the weld-adjacent zone in welding. The investigation
was carried out by the ИМЭТ-1 (IMET-1) method described in references 6 and 7.
The results of the investigation are given in a table which contains also data
on martensite, austenite-martensite and austenite-ferrite steel for comparison
with chrome-nickel austenite steels and nickel alloys. The following conclusions
are drawn. The proneness of alloys with similar alloying systems, to hot crack
formation can be comparatively evaluated from the temperature when ductility and

Card 1/3

The effect of the composition ...

S/135/62/000/004/006/016
A006/A101

strength, determined in impact tension under conditions of the thermal welding cycle, are beginning to be recovered. Chrome-nickel austenite steels are more prone to hot crack formation in the weld-adjacent zone than austenite-ferrite, austenite-martensite and martensite steels. Cracking sensitivity of austenite steels increases with a higher nickel content. Proneness to hot cracks in the weld-adjacent zone of chrome-nickel austenite steels and nickel alloys increases with a higher content of boron, aluminum, titanium and carbon. However, in nickel alloys, the negative effect of boron is very marked at a higher content ($> 0.01 - 0.02\%$) than in austenite steels ($> 0.005 - 0.007\%$). Proneness to hot cracks in the weld-adjacent zone of austenite steels and nickel alloys can be reduced by refining the base metal with the aid of electric slag remelting or vacuum melting, grain refining, and increasing the quenching temperature within the limits of a permissible grain size. All these methods reduce segregation of alloying elements and harmful impurities at the grain boundaries: the former, indirectly, by reducing the total amount of impurities in the alloy and by their more uniform distribution; the latter two, directly, by reducing the concentration of elements and impurities at the boundaries. The study was carried out with the participation of Engineer V. V. Belov, and Candidate of Technical Sciences V. S. Sedykh from the Institute of Metallurgy imeni A. A.

Card 2/3

The effect of the composition ...

S/135/62/000/004/006/016
A006/A101

Baykov and Engineer Yu. P. Glukhov. The authors thank Candidate of Technical Sciences V. N. Zemzin from the TsKTI imeni I. I. Polzunova, for his assistance. There are 5 figures, 1 table and 8 references: 6 Soviet-bloc and 2 non-Soviet-bloc.

ASSOCIATIONS: Institut metallurgii imeni A. A. Baykova (Institute of Metallurgy imeni A. A. Baykov)(Shorshorov and Sokolov); TsNIIChM imeni I. P. Bardin (Russiyan and Matsev)

Card 3/3

9(-)

AUTHOR: Parshina, N. S., Engineer,
Forkin, Yu L., Engineer, Matsonashvili, R. D , Engineer,
Chomskiy, A. N., Engineer, Shumekaya, S. T., Engineer

TITLE: A Universal Apparatus for Infralow Frequencies (UI INCh)

PERIODICAL: Priborostroyeniye, 1960, Nr 3, pp 14-16 (USSR)

ABSTRACT: In the present paper the methods of carrying out a general
investigation of automatic control systems within the region
of low frequencies are dealt with, and the apparatus mention-
ed in the title is briefly described. It is found that during
the feeding-in of a sinusoidal voltage into the automatic con-
trol system under investigation, a non-sinusoidal voltage exists
at the output of the latter, and the authors write down equa-
tion (1) for the effective value of the output voltage. The
Fourier-expansion of this equation is dealt with, and the
Fourier-coefficients and the solutions of equations (1) to (4)
are calculated by means of the UPINCh. This idea was suggest-
ed by F. dule of Eastern Germany, who also gave the principle
of the aforementioned apparatus. In figure 3 the block wiring
diagram for measuring the effective value of the output voltage,
the amplitude of the fundamental frequency and the coefficient
of nonlinear distortion is shown. Measurement of the phase shift

Card 1/2

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... Entry.. 1 p... ... .or Infralow Frequencies   S/119/60/000/03/006/017
(.. TECH)   B014/B007

... he...n the harmonic oscillations occurs according to equation
(...), ..d the corresponding block diagram is shown in figure 4.
furthermore., the generator for low-frequency voltages (Fig 6)
... . This new type of generator is a magnetoelectri-
.... .tor with electric reverse feedback. The square
...   i. generated by a relay connected to the generator.
... . scheme of the electric multiplication apparatus
... in figure 7 This apparatus served the purpose of
... ..ing the nonlinearities. The apparatus described here
... .ible to measure effective values of voltages of
... ... of the fundamental amplitude of up to 50 v within
... ...qu..y range of from 0.01-0 5 cps. Measurements of
... ...ient of nonlinear distortion are carried out at
... ... of from 0.01 to 0 05 cps. Phase shift is effected
within ...quency range of from 0.01 - 0.5 cps. The authors
... .rtinov and Yu. I. Yanova for their valuable
... ... in carrying out this investigation. There are
... ... and 2 Soviet references

Kurkina, N.S.

01989

S/120/60/000/03/020/055
EO41/E521

9. 2510

AUTHORS: Kurkin, Yu.L., Kurkina, N.S., Matsonashvili, R.D.,
Shumskiy, A.N. and Shumskaya, S.T.

TITLE: Study of an Electrodynamic Multiplier

PERIODICAL: Pribory i tekhnika eksperimenta, 1960, No 3,
pp 82-84

ABSTRACT: The instrument is shown, with the cover removed, in
Fig 2. A simplified circuit diagram is in Fig 1.
EM_1 and EM_2 are electromagnets, PC_1 and PC_2 are
moving coils, FD_{1-4} are photo-electric pick-offs,
y_1 and y_2 are d.c. amplifiers. Each moving coil
compares the torques proportional to the product of
the current in the coil and the air-gap flux density.
A feedback circuit using the pick-offs and amplifiers
obliges Eq (1) to be observed. Since fixed resistances
are connected in series with the coils, the instrument
may be used as a voltage multiplier as in Eq (4), or
if the inputs U_z and U_o in Fig 1 are connected together,
Card 1/2 as a square root extractor. The size of the unit is

pa

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E041/E521

Study of an Electrodynamic Multiplier

$220 \times 135 \times 180$ mm^3. Although the use of feedback avoids errors due to amplifier drift or temperature instability of the pick-offs, the instrument is still vulnerable to parasitic mechanical torques. The maximum working torque is 4 gm.cm. The error contributions are those of friction (10^{-3} gm.cm), the flexible connections (10^{-6} gm.cm), misalignment and out-of-balance. The misalignment effects are due to the inclusion of small ferromagnetic particles in undesirable places. The capacitances C_1 and C_4 shown in Fig 1 are necessary to prevent the system breaking into self-oscillations. The maximum input voltage is 100 V, the accuracy in multiplication is 1.10^{-3} and in division 2.10^{-3}. The frequency response is flat to 0.5 c/s. G. A. Martinov is thanked for his assistance. There are 2 figures and 2 Soviet references.

SUBMITTED: April 4, 1959
Card 2/2

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86759

S/120/60/000/006/035/045

E073/E335

9.6000 (3702,1099,1160)

AUTHORS: Kurkin, Yu.L., Kurkina, N.S. and Matsonashvili, R.D.

TITLE: Instrument for Measuring the Potential of Magnetic Surge Fields

PERIODICAL: Pribory i tekhnika eksperimenta, 1960, No. 6, pp. 122 - 123

TEXT: An instrument is described which is intended for measuring magnetic surge fields between 1 and 1 000 Oe with an accuracy not less than $\pm$ 2-3%. The instrument is based on utilising the Hall effect, i.e. the Hall e.m.f., which is highly sensitive to the applied voltage (Ref. 1). Of the hitherto investigated materials $\bar{n}$ - Ge has the highest sensitivity. In no-load operation the basic source of error of the instrument is the temperature dependence of the Hall e.m.f., which is due to of the dependences of the concentration and the mobility of the current carriers on the temperature $n(T^{o})$ and $\mu(T^{o})$. Their relative importance depends on the supply circuit of the pick-up. To ensure normal operation of the pick-up, "contact phenomena" have to be excluded. For this purpose it is

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S/120/60/000/006/035/045
E073/E335

Instrument for Measuring the Potential of Magnetic Surge
Fields

necessary that the contacts should be non-emitting, non-
rectifying and they should have a low resistance. Good
contacts can be obtained by grinding the surface, followed
by pickling in a solution consisting of 10 cm^3 hydrogen
peroxide and a few drops of liquid ammonia. The contacts
should be soldered by tin alloyed with 10% antimony. A
diagram of the basic circuit of the instrument is included.
The Hall probe is fed from stabilised equipment which
ensures thermal stabilisation of the Hall e.m.f. by changing
the intensity of the current which flows through the probe.
As a temperature pick-up a normally barred diode is used,
which is connected in parallel to resistances. The diode is
in thermal contact with the Hall pick-up. By varying the
impedance of the divider (by changing the resistance R_1)

the   change in the current intensity with temperature
in the range of 20 - 40 $^\circ$C can be obtained which is necessary

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Instrument for Measuring the Potential of Magnetic Surge Fields

for achieving compensation. The instrument has a pointer
and also an oscillographic output. The duration of the
measured pulses is 20 µs to 20 ms (oscillographic output) and
100 µs to 20 ms (pointer indication). Measurements have shown
that for a pick-up of 1.2 x 1.5 x 0.02 cm, made of 16 Ω Ge,
the amplitude of the ripples due to pulsations of the supply
voltage, the microphone effect of the tubes and other
influences will not exceed 1 to 1.5% on the most sensitive
scale of the instrument. Acknowledgments are expressed to
A.P. Pyatnitskiy for checking the manuscript and for valuable
advice and to V.V. Grigorashvili for designing the instrument.
There are 2 figures and 1 Soviet reference.

SUBMITTED: October 15, 1959

Card 3/3

20526

/6.9500 (1031, 1121, 1132)

S/115/61/000/001/004/007
B128/B201

AUTHORS: Kurkin, Yu. L., Kurkina, N. S., Matsonashvili, R. D., Shumskii,
             A. N., and Shumskaya, S. T.

TITLE: Study of a generator for very low frequencies

PERIODICAL: Izmeritel'naya tekhnika, no. 1, 1961, 32-35

TEXT: To study automatic control systems, generators are necessary which
produce oscillations in the range of 0.01-20 cycles. The authors describe
an electromechanical generator for very low oscillation frequencies, the
principle of which had been suggested by F. Ruhl (Eastern Germany). The sys-
tem shown in Fig. 1 consists of a magnetoelectric system with magnetic feed-
back. The movable system of this device is not in equilibrium with its axis
of rotation produces a certain mechanical torque. This torque is kept in
equilibrium by a counteracting torque which is produced in the frame, and
which is controlled by the pickup. The equilibrium of this system is
controlled by a servosystem, and the input voltage of the servosystem is the
desired oscillation of very low frequency. The authors studied the possible
errors very thoroughly. It was found that nonlinear disturbances do not

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Study of a ...

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B128/B201

exceed 0.5%, and that the error caused by centrifugal forces does not exceed 0.1%. Technical data of the generator: two electrical sine-wave voltages offset in phase by 90°, where the 90° phase shift is observed to within $\pm$ 0.2%; frequency range: 0.01 to 1 cycle, $\pm$ 0.2%. Maximum output voltage is equal to 100 units as referred to the amplifier input voltage as the unit. Amplitude fluctuation of the output voltage is smaller than $\pm$ 0.3% Nonlinear distortions are smaller than 0.5%. Maximum noise voltage at the output is 0.3 units as referred to the amplifier input voltages as the unit. G. A. Martynov and Yu. I. Yanova took part in the present investigation.

Legend to Fig. 1: S - N is the movable magnet;
1) frame; 2) pickup; 3) d-c amplifier;
4) output voltage.
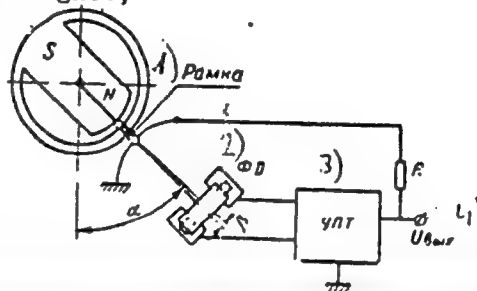
Card 2/2

9.7200

29323
S/109/61/006/010/021/027
D222/D302

AUTHORS: Kurkin, Yu. L., and Kurkina, N.S.

TITLE: Precision transistor amplifiers of high input (or
output) impedance for analogue computers

PERIODICAL: Radiotekhnika i elektronika, v. 6, no. 10, 1961,
1749 - 1756

TEXT: The authors recommend new circuits for current and voltage
amplifiers, and for voltage-current converters, in which the usual
limitations on the input and/or output impedances are removed. They
show that the high output impedance can be obtained only by apply-
ing positive feedback. In existing feedback current-amplifiers the
output impedance is limited by the collector resistance of the out-
put transistor for any appreciable degree of feedback. High output
impedance $r_{out} \gg r_c$ can be achieved by using a small amount of po-
sitive feedback, as shown in Fig. 2, in addition to the overall ne-
gative feedback. This multi-loop feedback circuit improves the sta-

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Precision transistor amplifiers ...

bility of the circuit parameters and reduces their sensitivity to
changes in the properties of the active elements. The output impe-
dance is between 50 and 300 megaohms. Analytical expressions for
the amplification, input and output impedances are given in the pa-
per, and it is shown that there is an optimal value for the degree
of local positive feedback. The same principles are used in the
voltage-current converter also shown in a figure. Analytical ex-
pressions for the slope, input and output impedances are given.
High input impedance in voltage amplifiers can be obtained with
parallel-series negative feedback. The circuit shown in Fig. 4 has
an input impedance between 500 and 2000 megohms. Stability of the
voltage amplification against changes in the operating conditions,
temperature or transistor replacement are ensured by the series-
parallel negative feedback which increases the input and reduces
the output impedance. The limited power amplification of the tran-
sistor, however, makes it possible only at the cost of reducing
the voltage amplification. Experimentally obtained characteristics
were in good agreement with the analytical expressions. There are

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Precision transistor amplifiers ...

29323
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D222/D302

6 figures, 2 tables and 4 references: 2 Soviet-bloc and 2 non-Sov-
iet-bloc. The references to the English-language publications read
as follows: E.M. Davis, IRE Wescon Convention Record, 78-86, 1959;
M. Kawakami, IRE Transactions, CT-5, 115, 1958.

SUBMITTED: November 3, 1960 (initially)
              July 23, 1961 (after revision)

Card 3/3

9, 2560

AUTHORS: Kurkin, Yu. L. and Kurkina, N.S.

TITLE: Precision transistor integrator

PERIODICAL: Avtomatika i telemekhanika, v. 22, no. 7, 1961,
             907-913

TEXT: The Miller integrator using tubes is inconvenient if trans-
istors are used, since it requires a very high amplification factor
(of the order of 10^5 to 10^6). More convenient is the integrator
whose block-diagram is given in Fig. 1c, with amplification factor
$K_u = 1$, with which a high input-resistance ($r_i \gg r_c$) can be easily
obtained. It is essential that the high input-resistance is obtain-
ed from the feedback resistance R_e and the current amplification of
the circuit only, and does not depend on the small input resistances
of the transistors which change with temperature and operating con-
ditions. Fig. 2a represents an amplifier with $K_u = 1$ and with high
$r_i = 100$ megohm. An advantage of the proposed integrator over the
Miller integrator consists in the compensation of an error due to

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Precision transistor integrator...

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leakage through r_i (Fig. 1c) by a slight increase in K_u. Fig. 2b represents an amplifier by means of which any stable and pre-set value of K_u can be obtained; such a value of K_u, slightly more than unity, is needed for compensating the capacitor discharge

$$K_u = \frac{1 + \frac{\alpha_4 R_f}{R_e} + \frac{\alpha_4 R_f}{r_{c3}(1 - 3)}}{1 + \frac{(1 - \alpha_4)R_f}{z_H} + \frac{R_f}{r_{c4}}} \qquad 1 + \frac{\alpha_4 R_f}{R_e}$$

The circuit remains stable also with small overcompensation. The amplitude characteristic of the amplifier of Fig. 2a is also given. The integrator works with a positive feed-back and is distinguished from the usual integrators of such type by incorporating as an amplifier a three-transistor amplifier with $K_u = 1$. The actually obtained characteristics of the integrator are given in the Table. The linearity of the amplifier is upset at output voltages above + 4.5 V. Much better results could be obtained by using a 4-tran-

Card 2/6

Precision transistor integrator

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D252/D302

sistor amplifier with high r_i (of the order of 1000 Mohm), and $K_u = 1$. As high precision of integration is required, a simplified problem is considered, with H(t):

$$H(t) = \frac{KR_e}{R} \left\{ \left[1 - e^{-\frac{t}{(K+1)CR_e}} \right] - \frac{e^{-\omega_1 t}}{\omega_1 CR_e (K+1)} \left[\frac{2\cos(\omega_1 \sqrt{K}t)}{(K+1)} + \frac{\sin(\omega_1 \sqrt{K}t)}{\sqrt{K}} \right] \right\}.$$

Silicon diodes are used against overloading; the errors due to these can be limited by suitable choice of C. The above amplifier-circuit can be also used for other linear operations with the given transient functions. There are 6 figures, 1 table and 5 references: 3 Soviet-bloc and 2 non-Soviet-bloc. The reference to the English-language publication reads as follows: J.B. Chatterton, D.C. Hollister: Isolation of Power Transformers and Power Supplies, Military Sus. Design, vol. 3, 1959.

SUBMITTED: January 5, 1961

Card 3/6

KURKINA, V.M.

Interrelations between nodule bacteria and their associated bacteria
with leguminous plants in pot experiment conditions. Agrobiologiia no.1:
40-48 Ja-F '65.   (MIRA 18:4)

1. Ul'yanovskiy sel'skokhozyaystvennyy institut.

MARTINKEVICH, F.S., kand.geograf.nauk; SOBOLEV, Ye.Ya., kand.geograf.nauk;
BOL'SHAKOVA, V.P., kand.ekonom.nauk; LAPETA, D.D., kand.ekonom.
nauk; GLADKIY, V.I., kand.geograf.nauk, starshiy prepodavatel';
ANICHENKO, G.V., kand.geograf.nauk; KOTT, G.Z.; TRUBILKO, N.P.,
kand.ekonom.nauk; KOROLENKO, I.K., kand.ekonom.nauk; GUTSEV, Ye.G.,
kand.geograf.nauk; CHERNENKO, V.A.; CHERNYSH, L.P.. Prinimali
uchastiye: KOZLOVA, A.I.; KOVALEVSKIY, P.V.; MAZURENKO, R.V.;
KUVEYSHA, Ye.I.; KRYLOVA, V.S.; SERZHINSKIY, I.I.; KURKINA, Z.A.;
KALECHITS, T.A.. ROMANOVSKIY, N.T., red.; KOSTEVICH, K.K., red.;
TURTSEVICH, L., red.izd-va; SIDERKO, N., tekhn.red.

[Distribution of the industry of White Russia for the processing
of agricultural raw materials] Razmeshchenie promyshlennosti BSSR
po pererabotke sel'skokhoziaistvennogo syr'ia. Minsk, 1959. 193 p.
                                    (MIRA 13:6)

1. Akademiya nauk BSSR, Minsk. Institut ekonomiki. 2. Zaveduyu-
shchiy sektorom razmeshcheniya proizvodstva Instituta ekonomiki
Akademii nauk BSSR (for Martinkevich). 3. Institut narodnogo
khozyaystva im. V.V.Kuybysheva (for Gladkiy).
                (White Russia--Industries, Location of)

KURKINA, Z.A.

Economic efficiency in the utilization of natural gas in the glass
industry. Gaz.prom. 10 no.3:31-35 '65.

(MIRA 18:5)

KURKO, K

ZAVEDEYEV, I.; KURKO, K.

In the Arctic icelands. Radio no.9:6-7 S '54.   (MLRA 7:9)
        (Arctic regions) (Radio)

KURKO, K.

On the Floating Drift Ice in the Arctic Zone (Radiogram Greetings from the Soviet Drift Ice Stations "N_rthpole" No. 3 and 4.) RADIO (Radio #10:3:Oct. 54

A. ДКРКО, К.

USSR/ Miscellaneous - Radio communication

Card 1/1   Pub. 89 - 16/32

Authors   : Kurko, K.

Title   : UPOL-3 station on the air

Periodical : Radio 2, page 28, Feb 1955

Abstract   : The establishment, by various amateur radio stations, with the UPOL-3
              Experimental Artic Station is recounted. The UPOL-3 station can be heard
              on the 7 Mc frequency, between 1000 -1100 and 1700 - 1800 hours, Moscow
              time. Illustration.

Institution: .....

Submitted: .....

USSR/Electronics - Polar communications

Card   1/1   Pub. 89 - 5/30

Authors   : Kurko, K., and Morozov, P.

Title   : North Pole — Antarctic

Periodical   : Radio 3, 8 - 9, Mar 1955

Abstract   : K. Kurko ralates in detail how he communicated from the station "North
               Pole 3" with Morozov in a whaling fleet in the Antartic by Radio.
               P. Morozov similary recounts recounts the same happening as experienced
               from his location. Illustration.

Institution : .....

Submitted   : .....

KURKO,K.

UPOL-3 on the air. Radio no.11:9 N'55. (MLRA 9:1)

1. Byvshiy nachal'nik radiostantsii "SP-3"
                    (Amateur radio stations)

KUZMA, ..

Kuzma, V. and Pirogov, N. "On improving the quality of clear rimsky saure", Pyas. Industriya, 1949, No. 1, p. 37-39.

SO: U-3042, 11 March 53, (Letopis 'nykh Statey, No. 10, 1943).

KOCHETKOVA, Z.V., nauchnyy sotrudnik; KURKO, V.I., nauchnyy sotrudnik.

Dinner from canned foods. Nauka i zhizn' 20 no.11:36 N '53.   (MLRA 6:11)

1. Institut pitaniya Akademii meditsinskikh nauk SSSR.   (Food, Canned)

KURKO, V. I.

"The Decomposition of Collagen in the Cooking of Meat." Cand Tech Sci, Moscow Technological Inst of the Meat and Dairy Industry, 9 Dec 54. (VM, 30 Nov 54)

Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (11)

SO: Sum. No. 521, 2 Jun 55

USSR/Medicine - Nutrition   FD-3060

Card 1/1   Pub. 141 - 6/23

Author   : Kurko, V. I.

Title   : Histological changes in collagen fibers in meat during heat
                 treatment

Periodical   : Vop. pit., 32-36, May/June 1955

Abstract   : Studied the histological changes that take place in the collagen
                 fibers in meat while it is heated. Samples of beef were boiled in
                 water and also heated to 120° in an autoclave for various lengths
                 of time and the structure of the fibers examined under a microscope.
                 Results indicate that histological changes in the muscle fibers de-
                 pend on the intensity and time of heating, with different muscles
                 having different rates of changes. Hence, the various parts of the
                 beef carcass should receive different types of heat treatment for
                 preparation of preserved meat products. Five references (all USSR;
                 three since 1940).

Institution   : Division of Food Technology (Heat - Cand Tech Sci S. M. Bessonov)
                 Inst of Nutrition Acad Med Sci USSR, Moscow

Submitted   :

KURKO, V.I.

"Tables on chemical composition and nutritional value of food products." A.I.Shtenberg, G.M.Geller, E.F.Katsprzhak. Reviewed by V.I. Kurko. Vop.pit. 14 no.2:53-60 Mr-Ap '55.   (MLRA 8:6)
(FOOD--ANALYSIS)
(SHTENBERG, A.I.)
(GELLER, G.M.)

KURKO, V.I.

      Review of three books on home canning. Vop.kit. 14 no.6:48-50
N-D '55.   (MLRA 9:1)
        (CANNING AND PRESERVING)

KURKO, V., kandidat tekhnicheskikh nauk

Useful handbook ("Biochemistry of meat." N.N. Krylova, IU.N. Liaskovskaia. Reviewed by V. Kurko). Mias.ind.SSSR 26 no.2:60-61 '55.   (MLRA 8:7)

1. Institut pitaniya Akademii meditsinskikh nauk SSSR.
    (Meat) (Krylova, N.N.) (Liaskovskaia, IU.N.)

DEMEZER, A.A.; DZYUBA, M.L.; BLINOV, L.F.   kandidat sel'skokhozyaystvennykh
    nauk; BOLDYREV, N.I., kandidat pedagogicheskikh nauk; GAY-GULINA, Z.S,
    GRUDEV, D.I., kandidat sel'skokhozyaystvennykh nauk; DUBROV, Ya.G.,
    professor; KOVALENKO, V.D., ;KRYSINA, O.I.; KURKO V.I.; LEVI M.F.,
    kandidat sel'skokhozyaystvennykh nauk; MORDKOVICH, M.S.; POPOV, I.P.
    kand'4at biologicheskikh nauk;SAGALOVICH, Ye.N., agronom; SILIN, V.N,
    zootekhnik; STRUYANSKIY, I.L., vrach; SUSHKOVA-LYAKHOVICH, M.L.,
    kandidat meditsinskikh nauk; SHAPOVALOV, Ya.Ya., kandidat sel'sko-
    khozyaystvennykh nau; SHENDERETSKIY, E.I., kandidat sel'skokhozyay-
    stvennykh nauk; YAVNEL', A.Yu., kandidat meditsinskikh nauk; RODINA,
    P.I., redaktor; YUROVITSKIY, Ye.I., redaktor;PEVZNER, V.I., tekhni-
    cheskiy redaktor.

[Home economics] Domovodstvo. Moskva, Gos.izd-vo sel'khos.lit-ry.
1956. 479 p.   (MLRA 10:5)
                (Home economics)

VLADIMIROV, B.D.; KURKO, V.I.

      "Dietetic restaurant; restaurant for therapeutic nutrition."
M.S.Marshak. Reviewed by B.D.Vladimirov, V.I.Kurko. Vop.pit. 15
no.4:56-58 Jl-Ag '56.   (MLRa 9:9)
        (DIET IN DISEASE)   (MARSHAK, M.S.)
        (RESTAURANTS, LUNCHROOMS, ETC.)

KURKO, V.I.; PIROGOV, N.M.

"Cookery." L.A.Maslov. Reviewed by V.I.Kurko, N.N.Pirogov. Vop.pit.
15 no.5:59-61 S-O '56.   (MLRA 9:11)
          (COOKERY)   (MASLOV, L.A.)

KURKO, V.I.; SOKOLOVSKIY, V.P.

Pamphlets on therapeutic diet. Reviewed by V.I.Kurko, V.P.Sokolovskii.
Vop.pit. 15 no.6:53-56 N-D '56.   (MLRA 9:12)
            (DIET IN DISEASE)

KURKO, V., kandidat tekhnicheskikh nauk; GLUKHAREV, N., inzhener.

Cans of "sausages with sauerkraut", sterilized at $100^{o}C$.
Mias. ind. SSSR 27 no.1:28-29 '56.   (MLRA 9:6)

1.Institut pitaniya AMN SSSR (for Kurko)
                (Meat, Canned)

KURKO, V., kandidat tekhnicheskikh nauk.

Canned chopped meat products. Mias.ind.SSSR 28 no.1:23-26 '57.

(MLRA 10:3)

(Meat, Canned)

KURKO, V.I., kand. tekhn. nauk.

[Using antibiotics for the preservation of food products] Primenenie
antibiotikov dlia konservirovaniia pishchevykh produktov. Moskva,
Vses. in-t nauchnoi i tekhn. informatsii, 1958. 34 p. (MIRA 11:9)
                     (Food--Preservation) (Antibiotics)

KURKO, Vyacheslav Iosifovich, kand.tekhn.nauk; POLETAYEV, Tikhon
Nikolayevich; RUDNIK, A.V., red.; GUREVICH, N.M., tekhn.red.

[Processing meat under domestic conditions] Pererabotka miasa
v domashnikh usloviiakh. Moskva, Gos.izd-vo sel'khoz.lit-ry,
1958. 80 p.   (MIRA 12:7)
                        (Meat)

KURKO, V. I.

Histological structure of connective tissue in meat, the collagen content and its stability [with summary in English]. Vop.pit. 17 no.4:58-61 Je-Ag '58   (MIRA 11:7)
(MEAT, eff. of heat treatment on conncetive tissue
& collage (Rus))
(COLLAGEN,
in meat, eff. of heat treatment (Rus))

KURKO, V., kand.tekhn.nauk

Book has been substantially improved ("Biochemistry of meat"
by N.N. Krylova and IU.N. Liaskovskaia. Reviewed by V.Kurko).
Mias. ind. SSSR 29 no.2:56 '58.   (MIRA 11:5)
                    (Meat) (Biochemistry)
                    (Krylova, N.N.) (Liaskovskaia, IU.N.)

SHISHKINA, N.N., kand.tekhn.nauk; SOLOV'YEV, V.I., kand.khimicheskikh nauk
  KURKO, V.I., kand.tekhn.nauk; DUBROVINA, L.I., mladshiy nauchnyy
  sotrudnik; SHCHEGOLEVA, O.P., mladshiy nauchnyy sotrudnik.

   Intensified coloration of sausages cooked in an alternating
   electric field of high frequency, and the frying of sausages
   with the use of smoke solutions. Trudy VNIIMP no.9:50-62
   '59.   (MIRA 13:8)
                (Sausages)

KURKO, V.,kand.tekhn.nauk

Rapid determination of the degree of penetration of smoke
phenols into sausage. Mias.ind.SSSR 30 no.1:17-18 '59.
(MIRA 12:4)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut myasnoy
promyshlennosti.
(Sausages)   (Phenols)

KURKO, V., kand. tekhn. nauk

Antioxidant properties of curative components of smoke.
Mias. ind. SSSR 30 no.3:19-21   '59.   (MIRA 12:9)

1.Vsesoyuznyy nauchno-issledovatel'skiy institut myasnoy
promyshlennosti.
     (Meat--Preservation)   (Antioxidants)

KURKO, Vyacheslav Iosifovich, kand.tekhn.nauk; SOKOLOV, A.A., dotsent, kand.tekhn.nauk, spotsred.; IVANOVA, N.M., red.; PEREDERIY, S.P., tekhn.red.

[Physicochemical and chemical principles of the food smcking process] Fiziko-khimicheskie i khimicheskie osnovy kopcheniia. Moskva, Pishchepromizdat, 1960.   222 p.

(MIRA 14:4)

(Meat, Smoked)   (Fish, Smoked)

KURKO, V., kand.tekhn.nauk

Possibilities for replacing smoke by smoke preparations.
Mias. ind. SSSR 31 no.4:24-26 '60.   (MIRA 14:7)
               (Meat, Smoked)

KURKO, V., kand.tekhn.nauk

Smoking meat products in the U.S. Mias.ind.SSSR 32 no.2:58-59 '61.
(MIRA 14:7)

(United States--Meat, Smoked)

KHELO, V.I., kand. tekhn. nauk; KALININ, L.F., mladshiy nauchnyy sotrudnik

Chemical nature of smoke components. Trudy VNIIMP no.11:106-118
'62.
                                                              (MIRA 18:2)

KUBKO, V.I., kand. tekhn. nauk; PEROVA, P.V., kand. veterin. nauk

Bactericidal properties of the components of wood smoke. Trudy
VNIIMP no.11:119-127 '62. (MIRA 18:2)

KURKO, V.I., kand. tekhn. nauk; KEL'MAN, L.F., mladshiy nauchnyy sotrudnik

Phenols content of sausage products as indicator of their
smokiness. Trudy VNIIMP no.12:83-91 '62.   (MIRA 18:2)

KURKO, V.I., kand. tekhn. nauk; KEL'MAN, L.F., mladshiy nauchnyy sotrudnik;
ROGOV, I.A., kand. tekhn. nauk

Some comparative studies of conventional and electrostatic smoking.
Trudy VNIIMP no.12:92-103 '62.   (MIRA 18:2)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut myasnoy
promyshlennosti (for Kurko, Kel'man). 2. Moskovskiy
tekhnologicheskiy institut myasnoy i molochnoy promysh-
lennosti (for Rogov).

BELOUSOV, D.P., inzh.; SABUROV, N.V., prof.; SHIROKOV, Ye.P., kand.
    sel'khoz. nauk; MOSHKOVICH, I.K., agronom; UL'YANOV, A.P.,
    agronom; KRASNOKUTSKAYA, S.V., kand. sel'khoz. nauk;
    ZOLOTOVA, A.I.; KALININA, N.N.; DAVIDOVA, R.B., prof.;
    KURKO, V.I., kand. tekhn. nauk; KLEYMENOV, I.Ya.; VOROB'YEVA,
    A.A.; DEMEZER, A.A.; ROSSOSHANSKAYA, V.A., red.; BALLOD, A.I.,
    tekhn. red.

[Home canning and processing of agricultural products] Konser-
virovanie i pererabotka sel'skokhoziaistvennykh produktov v
domashnikh usloviiakh. [By] D.P. Belousov. Moskva, Sel'khoz-
izdat, 1963. 406 p.   (MIRA 16:10)
 (Canning and preserving)   (Cookery)

KURKO, V., kand. tekhn. nauk; KEL'MAN, L.

Separation of dimethyl esters of pyrogallol and its homologs
by means of paper chromatography. Mias ind SSSR 34 no. 6:
50-52 '63.   (MIRA 17:5)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut myasnoy
    promyshlennosti.

KURKO, V.I.

[New developments in the chemistry of food smoking] Novoe
v khimii kopcheniia. Moskva, TSentr. in-t nauchno-tekhn.
informatsii pishchevoi promyshl., 1964. 26 p.
(MIRA 17:12)

KURKO, V.I.; KHMEL'NITSKIY, Yo.A. [Khmel'nyts'kyi, IE.O.]

Antioxidative effect of the various smoking methods. Khar.
prom. no.1:25-27 Ja-Mr '65.   (MIRA 18:4)

KURKO, V.I., kand. tekhn. nauk; KEL'MAN, L.F., inzh.-khimik;
    MEL'TSER, F.R., inzh.-khimik; KUZNETSOVA, A.A., laborant

    Comparative phenol characteristics of smoking preparations
    and uncooked smoked sausage. Trudy VNIIMP no.16:211-220 '64.
                                            (MIRA 18:11)

KURKOV, D.A.

Processing of low-grade cotton. Tekst.prom. 18 no.12:47 D '58.
(MIRA 11:12)

1. Nachal'nik sortirovochno-trepal'nogo tsekha Bumagopryadil'noy
fabriki Glukhovskogo kombinata.
(Cotton gins and ginning) (Cotton carding)

KURKOV, D.A.

Modernization of scutching equipment. Tekst.prom. 21 no.1:71 Ja '61.
(MIRA 14:3)

1. Nachal'nik trepal'nogo tsekha Glukhovskogo khlopchatobumazhnogo
kombinata.
(Cotton machinery)

KURKOV, G.A.; LABUTIN, M.M.

Manufacture of panels in reinforced concrete molds in
Sakhalin. Bet. i zhel.-bet. no.7:326-327 Jl '61.
(MIRA 14:7)

1. Glavnyy inzh. tresta Sakhalinspetsneftestroy (for Kurkov).
2. Direktor Okhinskogo filiala Sakhalingiproproma (for Labutin).
          (Sakhalin--Precast concrete)

NEUDACHIN, G.I.; KURKOV, G.A.; SULTANOV, B.Z.; KOLOMOYETS, A.V.

Practice of using double-column vacuum pipes. Razved. i okh. nedr
29 no.9:54 S '63.   (MIRA 16:10)

1. Sverdlovskiy gornyy institut.

KONONOV, I.I., podpolkovnik; KURKOV, L.F., mayor.

Training pilots prior to flights under difficult conditions. Vest.
Vozd. Fl. 39 no.4:48-52 Ap '57.   (MLRA 10:9)
(Flight training)

MAGNITSKIY, Yu.A.; KURKOV, M.F.

Projection method of analyzing indicator diagrams of the internal combustion engine. Avt.prom. no.9:28-30 S '61. (MIRA 14:9)

1. Rostovskiy-na-Donu institut inzhenerov zheleznodorozhnogo transporta.
(Indicators for gas and oil engines)
(Diesel engines--Testing)

VILLEM, P.I., gornyy inzh.; KUPKOV, L.I., gornyy inzh.; Kotkin, G.I., gornyy inzh.

Ore haulage by means of a cable-belt conveyor at the "Zapoliarnyy" Mine. Gor.zhur. no.10:44-45 O '61.   (MIRA 18:1)

1. Noril'skiy kombinat.

VAL'KO, F.I.; KURKOV, S.P.

[Contribution of efficiency promoters to agriculture]
Vklad ratsionalizatorov v sel'skoe khoziaistvo. Penza,
Penzenskoe knizhnoe izd-vo, 1963. 55 p. (MIRA 17:9)

KUROCHKIN, S.S.; BELOV, A.F.; BELOUS, A.L.; SALICHKO, V.N.; ABUZINA, I.N.;
    KURKOV, Yu.V.; KUZNETSOV, K.F.; STERLIGOV, D.A.

    Principle transistorized components of multichannel measuring
    systems. Mnogokan. izm. sist. v iad. fiz. no.5:87-116 '63.
                                                (MIRA 16:12)

ACCESSION NR: AT3012187   S/2963/63/000/005/0117/0127

AUTHOR: Kurochkin, S. S.; Belous, A. L.; Kuznetsov, K. F.; Kurkov, Ye. V.

TITLE: Sectionalized variant of magnetic operating memory for 2048 numbers

SOURCE: Mnogokanal'ny*ye izmeritel'ny*ye sistemy* v yadernoy fizike. Nauchno-tekhnicheskiy sbornik. Moscow, no. 5, 1963, 117-127

TOPIC TAGS: memory, magnetic memory, operative memory, sectional-ized memory, memory cube, address selection unit, transistorized current generator

ABSTRACT: The structure and test results of a memory unit consist-ing of standard elements are considered from the point of view of operation of the magnetic memory as a unit and the performance of the standard elements used in the memory. The design is sectional-

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ACCESSION NR: AT3012187

ized so that the memory consists of 8 memory cubes each for 256
numbers, an address selection unit, a unit for reading and writing
the number codes, and transistorized current generators for reading
and writing. The operation of the memory and the test results
are described. Although this memory is not the most economic from
the point of view of equipment utilization, its advantage is that
it can operate with low-power transistorized current generators.
The reading system ensures high signal to noise ratio and some of
its features may be useful in the construction of large size mem-
ories. Orig. art. has: 9 figures.

ASSOCIATION: None

SUBMITTED: 00   DATE ACQ: 16Oct63   ENCL: 01

SUB CODE: NS; SD   NO REF SOV: 003   OTHER: 000

Card 2/82

in the article, and weighed approximately 20 kg. The readout time

Card   3/4

KURKOV, Yu.

Defects of hides occurred during the life of the animal. Mias
ind SSSR 34 no. 6:24 '63.   (MIRA 17:5)

1. Michurinskiy myasokombinat.

KURKOV, Yu.V., inzh.

    Modernizing the electric diagram for the A-547r semi-
automatic welder. Svar. proizv. no.6:38-39 Je '63.
                                      (MIRA 16:12)

6-65
NR: AP4043130

Card 2/3

KURKOVA, N. S.

KURKOVA, N. S.: "Investigation of the effect of parameters of the process on the destructive hydrogenation of petroleum residues under
low pressure." Acad Sci USSR. Inst of Petroleum. Moscow, 1956.
(DISSERTATION For the Degree of Candidate in CHEMICAL SCIENCE.)

So: Knizhnaya letopis', No. 24, 1956

KURKOVA, N.S.

[A study fo the effect of the parameters of process on destructive
hydrogenation of petroleum wastes under low pressure; abstract of a
dissertation offered for the degree of candidate of chemical sciences]
Issledovanie vliianiia parametrov protsessa na destruktivnuiu gidro-
genizatsiiu neftianykh ostatkov pod nevysokim davleniem; avtoreferat
dissertatsii, predstavlennoi na soiskanie uchenoi stepeni kandidata
khimicheskikh nauk. Moskva, Akad.nauk SSSR, In-t nefti, 1956. 14 p.
        (Petroleum--Refining)   (MIRA 11:2)
        (Hydrogenation)

KURKOVA, N.S.

USSR/Chemical Technology - Chemical Products and Their   I-13
          Application. Treatment of natural gases and petroleum.
          Motor fuels. Lubricants.

Abs Jour : Referat Zhur - Khimiya, No 4, 1957, 12936

Author   : Katsobashvili Ya.R., Kurkova N.S.
Title   : On the Extent of Hydrogenation of Aromatic Hydrocarbons
            in the Process of Destructive Hydrogenation of Petroleum
            Residues

Orig Pub : Khimiya, i tekhnol. topliva, 1956, No 3, 31-37

Abstract : Considered are the problems of thermodynamically possible
            degrees of conversion of aromatic hydrocarbons into naph-
            thenic at different temperature and H_2 pressure, and of
            the comparative extent of their hydrogenation in the pro-
            cess of destructive hydrogenation of petroleum residues
            at a pressure of 30 and 300 atmospheres. It is shown
            that regardless of the pressure utilized on destructive
            hydrogenation of petroleum residues, it is not possible

Card 1/2   - 244 -

            to attain a complete hydrogenation of the aromatic com-
            pounds; at pressures of 30 and 300 atmospheres extent
            of hydrogenation and content of aromatic hydrocarbons
            in the final products are practically the same, and re-
            present, for example in the case of kerosene fractions,
            30-35% by weight: in order to attain a sufficiently high
            degree of hydrogenation of aromatic hydrocarbons, on des-
            tructive hydrogenation, it is necessary to proceed along
            the lines of a selection of highly active catalysts, in
            order to approximate the thermodynamical equilibrium
            yields.
            Bibliography, 21 references.

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KATSOBASHVILI, Ya.R., KURKOVA, N.S.; KUKHTICHEVA, V.F.

Refining of fuel oil by destructive hydrogenation under pressure
of 30 atmospheres in the presence of a circulating diluent. Trudy
Inst.nefti 13 '59.   (MIRA 13:12)
                    (Petroleum as fuel)

5.3300(B)
5.1190

69662

S/180/60/000/02/025/028
E071/E135

AUTHORS: Katsobashvili, Ya.R., Kuz'mina, T.N., Kurkova, N.S.,
             Kukhticheva, V.F., Levitskiy, E.A., Likhobabenko, V.S.,
             and Masolova, F.A. (Moscow)

TITLE: Mechanically Strong Aluminonickel Catalyst for the
             Process of Destructive Hydrogenation

PERIODICAL: Izvestiya Akademii nauk SSSR, Otdeleniye tekhnicheskikh
             nauk, Metallurgiya i toplivo,1960,Nr 2, pp 159-164 (USSR)

ABSTRACT: The process of destructive hydrogenation of crudes and
             residues under a moderate pressure in a circulating
             stream of a catalyst developed by the Petroleum Institute
             of the Academy of Sciences USSR (Ref 1) requires the
             application of catalysts which are resistant to wear.
             An investigation of the influence of conditions of
             preparation of aluminonickel catalysts, containing 10% of
             nickel oxide, on their mechanical strength is described
             in the present paper. The experiments were carried out
             on a small and pilot plant scale. The precipitation of
             mixed and separate aluminium and nickel hydroxides from
Card   2N solutions of nitrates or sulphates was done with sodium
1/3   hydroxide, controlling the pH of the medium, temperature

69662

S/180/60/000/02/025/028
B071/B135

Mechanically Strong Aluminonickel Catalyst for the Process of Destructive Hydrogenation

of precipitation, ageing time of the precipitated hydroxides and, in the case of separate precipitation from sulphate salts, the amount of wash water on the residual content of sulphate ion. The experimental results obtained are given in tables: Table 1 gives the influence of pH of the medium during precipitation on the strength of the catalyst (experimental conditions: precipitation temperature 20 °C; ageing temperature 20 °C; washing with ammoniacal water at room temperature); Table 2 gives the influence of pH of the medium during precipitation on the strength of the catalyst (experimental conditions: duration of ageing 45 hours, pH during precipitation 9.6); Table 3 gives the influence of ageing on the mechanical strength of the catalyst (pH at the end of precipitation 9.6, precipitation and ageing at room temperature); Table 4 gives the influence of chemical composition on the content of sulphate ions in aluminonickel catalysts; Table 5 gives the properties of aluminonickel catalysts prepared by the method of separate

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